



Science and Technology Committee

Corrected oral evidence: Nature-based solutions for climate change

Tuesday 2 November 2021

11 am

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Members present: Lord Patel (The Chair); Viscount Hanworth; Lord Holmes of Richmond; Lord Kakkar; Lord Krebs; Baroness Manningham-Buller; Baroness Walmsley; Baroness Warwick of Undercliffe; Baroness Sheehan.

Evidence Session No. 10

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Questions 106 - 121

Witnesses

Nick Halfhide, Director of Nature and Climate Change, NatureScot; Alan Hampson, Head of Policy and Practice, Scottish Forestry

USE OF THE TRANSCRIPT

This is a corrected transcript of evidence taken in public and webcast on www.parliamentlive.tv.

Examination of witnesses

Nick Halfhide and Alan Hampson.

The Chair: Good morning, Nick Halfhide and Alan Hampson. I am glad it is sunny in Scotland—I presume you are both in Scotland. Thank you for coming today to help us with our inquiry. We are looking forward to your contribution, and I am going to let Lord Krebs start with the first question, please.

Q106 **Lord Krebs:** Thank you very much, Lord Chairman. I would like to ask each of you to briefly describe the role of your public delivery body in supporting the deployment of nature-based solutions at scale. In answering, could you give us an indication of whether you have sufficient resources to carry out your role, including the skills and expertise to scale up nature-based solutions to accord with the UK Government's targets for climate change in nature restoration? Perhaps you could highlight any areas that you think need any additional investment and focus.

Alan Hampson: Thank you. Good morning, everybody. I am the head of policy and practice with Scottish Forestry. Scottish Forestry is the public body in Scotland responsible for policy regulation and support of the forestry sector. It was brought into being by the Forestry and Land Management (Scotland) Act 2018. The organisation itself was set up in 2019, along with a sister agency, Forestry and Land Scotland, which is responsible for the management of state-owned forests.

The Act also requires Scottish ministers to prepare a Scottish forestry strategy, which has to set out a vision for forestry in Scotland and Ministers' objectives, priorities and policy. Those include a number of things: the promotion of sustainable forest management, the creation of woodland, setting targets for woodland creation, et cetera. That strategy sets out the strategic direction and high-level objectives for Scottish Forestry. Part of our remit involves a number of areas that deliver on nature-based solutions. The main ones are around woodland creation, sustainable management of woodlands and forest resources and woodland restocking after harvesting.

Scotland's ambitious woodland-creation targets are already supporting the delivery of nature-based solutions at scale, particularly through carbon capture, adding to the sequestration potential of Scotland's forest resources, which already sequesters about 10% of Scotland's gross emissions in addition to delivering a wide range of social economic environmental benefits.

The main contribution that we are making to nature-based solutions to date is through woodland creation. The Scottish Government set out ambitious targets for woodland creation in its climate change plan update in December 2020. Those increase woodland creation from the current level of around 12,000 hectares per annum to 18,000 hectares per annum by 2024-25. This target will make a significant contribution to increasing the sequestration of carbon, but it will also enable the forest

resource to play a big part in delivering a wide range of benefits both for nature and for the economy.

In terms of resources to deliver, the capital funding required to deliver that target through 2024 has already been secured within Scottish Government, and Scottish Forestry will be bidding for additional resources to scale up the capacity of the organisation and to support the sector in doing likewise, during successive spending reviews. I think there are a few other areas where there will be challenges, particularly in terms of capacity and skills. I can either unpack that now or I can come on to that later as we get more into the detail.

Nick Halfhide: Good morning, everybody. I am director of nature and climate change at NatureScot. We are the Scottish Government's principal adviser and delivery body on nature. We are funded by Scottish Government, and we are accountable to Scottish Ministers. Our focus is on reviving nature to reverse the loss of biodiversity and, at the same time, to tackle other environmental, social and economic challenges such as climate change, improving the health of the nation and increasing jobs within the green economy. We have a similar role to Natural England. Within that, we have a wide range of roles around providing evidence and guidance across different habitats and geographies, identifying opportunities for projects of work, developing standards, codes, matrices and gathering together the data.

We are also a funding body, so we disburse government funds for nature recovery and peatland restoration in particular. We are also a regulator, so we regulate through licensing for some species and some land management activities. We also have a role within the planning system to advise on planning applications. In some cases, if we were to reject, that has legal consequences in terms of what then happens to the way that application is considered. Perhaps most importantly, we have a leadership role within Scotland around nature-based solutions, trying to increase understanding in the public debate and helping all different sectors of the economy and society to look at the opportunities and challenges around this, and to find solutions.

To give you some brief examples, we are heavily involved in peatland restoration and coastal assessment, particularly in relation to rising sea levels, and we do a lot of work on improving green infrastructure within some of our most deprived urban communities. We are also expanding protected areas, reducing wild deer numbers and are heavily involved in developing the new land management support and associated regulation that will replace the CAP.

In terms of resources, the new Scottish Government and Scottish Green Party co-operation agreement, the new Scottish Government programme for government and the Scottish Government climate change plan have some very ambitious targets within them for restoring nature and to tackle the twin and interlinked crisis of climate change and biodiversity. We are looking to see how we can attract the funding to meet those challenges but, perhaps more importantly, this is a challenge right across the public and private sectors. Part of our role is to try and bring together

those alliances and the funding required, and the skills and the literacy in climate change and biodiversity, so that we can bring together very practical solutions. Our role is to stimulate and co-ordinate that and to help build capacity within those organisations but also capacity on the front line, whether that is advising land managers or advising and working with communities in urban areas to find the solutions which are best suited to their circumstances.

Q107 **Baroness Walmsley:** There was an interesting programme on TV last night. It was called "Dispatches" and it had an interesting example of what you might call land sharing, or a conflict between different ways of achieving net zero. It was on the building of a large wind farm on peatland in Shetland. Could you say whether you have any role in advising the Government on issues of this sort and, if so, what sort of criteria you use to establish what that advice is?

Nick Halfhide: I am happy to pick that up. We have a significant role in major planning applications. We will have given advice to the decision-maker, which I think in this case was indeed the Scottish Government, as opposed to the local authority, around the impact of a wind farm or any development on important wildlife, either important locally, regionally or nationally. We will work alongside other public bodies, for example, the Scottish Environment Protection Agency, which would advise around the impact on peat, particularly the carbon aspects of that. We would have provided all that material to the decision-maker, along with material from all sorts of other bodies, so that it can balance those decisions, which it does regularly for wind farms and other developments right across Scotland.

Q108 **Baroness Warwick of Undercliffe:** One of the consistent things that we have heard from many of our witnesses is the need for consistency in policies and practices, and that is obviously going to be very important right across borders. I wonder if you could say something about the relationship between the various devolved public delivery bodies and between the Scottish and UK Governments. Are they constructive in this area, and could they be improved? Is there anything that the rest of the UK should learn from Scottish policies to support tree planting and nature-based solutions generally?

Nick Halfhide: We work incredibly closely with the Scottish Government and other bodies within Scotland, particularly local authorities, the Scottish Environment Protection Agency, the two forestry bodies, Scottish Water and so on. At a Scottish level, while that co-ordination could always be better, it is relatively good. At the UK level, we work with our sister bodies in England, Wales and Northern Ireland through the JNCC, the Joint Nature Conservation Committee, to try to bring a level of consistency across the four nations of the UK, both within our internal domestic work, but also so that we can report on international obligations because, as the environment matters are devolved, we have to have that level of close working so that the sum of our parts meets the UK obligations.

What we are finding at the moment is that COP 26, but also COP 15, the biodiversity COP and the recent co-operation agreement between the Scottish Government and the Scottish Green Party, including the two new Green Ministers, is bringing additional focus and co-ordination and, indeed, pace to this work within Scotland. I am not able to comment on relations between the Scottish Government and the UK Government because I am not a member of either, so I hope my response has at least given you an insight into how the Scottish public bodies work and how we work across the UK.

Alan Hampson: We have a very constructive relationship with the devolved public bodies on forestry matters. Forestry, as a sector, operates across the UK. It is really important that, at operational level, there are no barriers to the sector operating effectively. There is a lot of co-operation to ensure that the sector can function at that level. In terms of policy and other areas of work, devolution has enabled a tailoring of policy more to local circumstance, which has been very helpful. The better a woodland proposal can reflect local circumstance, as well as the ecological conditions of the site, the more chance there is of people adopting it. So that flexibility and policy has been really helpful.

There are different types of woodlands and a different mix of benefits, and that flexibility to match all of that at a country level has been really helpful but it has not impeded us working jointly because, at the end of the day, all the forestry bodies are pursuing the same broad outcomes around woodland expansion and sustainable forest management. I am not aware of any particular issues or challenges. That is not to say that there are not areas where we would—we do—try to work harder, such as increasing the use of domestic timber as a low-carbon alternative to the likes of concrete and steel.

Q109 **Baroness Warwick of Undercliffe:** May I ask you to outline the responsibilities that the devolved Forestry Commission has for the rest of the UK? You mentioned it earlier, but could you just outline very briefly what they are?

Alan Hampson: Everything is devolved from the UK level. It was recognised during the devolution process that there was a lot of merit in maintaining some functions at the UK level, and certainly the forestry sector and our environmental stakeholders were very keen to promote that. To that end, there was a memorandum of understanding drawn up to govern these cross-border functions. The whole commissioning and delivery of research is one of those. Plant health and forest reproductive material is another. The UK forestry standard, which underpins sustainable forest management, is one; the woodland carbon code, which I think you heard about earlier, is another; and then there is the provision of economic advice. Scotland leads on the UK forestry standard, the woodland carbon code and the provision of economic advice. Wales leads on the research side and England leads on plant health.

The MoU also sets out the financial arrangements for the sharing of costs and the governance arrangements. That function is overseen by the forest governance group, which meets at least annually. It is currently

looking at introducing a sixth schedule to the MoU around co-ordinating the delivery of net zero. That schedule will not set the targets, and nobody will be accountable to it in terms of the delivery. Target setting and delivery is accountable to the individual Parliaments. The sixth schedule and the net-zero working group that has been set up will provide a mechanism for us to co-ordinate activity.

Q110 Lord Holmes of Richmond: Good morning and thank you to the witnesses for taking the time to be with us this morning. We have heard in previous sessions about the co-benefits that nature-based solutions can provide, but also some of the trade-offs, not least in land use. How do we ensure that we have management of those trade-offs and the right nature-based solutions deployed in the right context to realise those co-benefits?

Nick Halfhide: The first thing I would say is that this is actually a really important question to address because, as we know, the amount of land that we have is finite, yet we are trying to get multiple benefits out of all of it. From our perspective, the key things we are focused on are how we reverse the loss of biodiversity, how we reduce emissions from our land and how we make the land and the sea more resilient to the climate change that is already baked in, while also providing jobs, creating food and so on.

We in Scotland have been looking at the best local mechanisms for doing that and, on land, we have pilot rural land use partnerships. The key to these rural land use partnerships is that they will look, at the regional scale, at how to deliver all these national and international obligations at a local level while maintaining jobs, creating new businesses and meeting the needs of communities. The hope is that, if those pilots are successful—we know they are complicated—we will then roll them out. We have a particular role within those land use partnerships to make sure that we bring the right evidence and data that we and others have access to about what is happening locally and what the potential is, and use our local facilitation skills to bring some of the key actors to the table.

There is a similar mechanism happening within the marine environment in marine sector plans, some of which are more advanced than others, which, in effect, mimic the rural land use partnerships within the marine environment. One of the things that we all often neglect is the marine environment, which in Scotland is six times as large as the land and is crucial, not only to climate change and biodiversity, but to future jobs, whether in wind farms or more innovative sources of using the land and the sea—not just the land, not just for fish, but for seaweed farming or whatever some of the new industries might be. I hope that helps set out our broad approach.

Alan Hampson: I agree with Nick. It is a really good question, and it is important that we frame this as a choice and trade-off of benefits rather than polarising into particular issues. Nick has gone through the various strategic mechanisms that have been developed in Scotland, so I will not repeat that. What I might do is just hone in on one of the challenges that we are dealing with on a daily basis in Scottish Forestry

and that is the trade-off between, on one hand, the carbon sequestration through fast-growing conifers and, on the other, the biodiversity benefits associated with native or broadleaf woodlands.

I should start by saying that there are biodiversity benefits associated with commercial fast-growing species as well. Even where that is the primary objective, at least a quarter of the site will not be used for fast-growing conifers, so there are also biodiversity benefits. But if we look at this trade-off situation, fast-growing conifers are going to sequester carbon quicker in the short term but produce less biodiversity, whereas native species will develop more quickly. The flora and fauna will become richer in biodiversity but will be slower to accumulate carbon. Crudely, the trade-off is whether you want more biodiversity and to wait for the carbon, or whether you want the carbon quickly and to wait for the biodiversity.

Q111 Lord Holmes of Richmond: You both obviously have a particular purview. Do you have a sense of whether this management of the trade-offs and optimum deployment is working better on the land or in the marine environment, at the moment?

Alan Hampson: I cannot comment on the marine; I will leave that to Nick. For the land, the trade-off that I just characterised is one that will be a major focus of the revision of the next Scottish biodiversity strategy, which work has begun on, and which will be published next year. What is really important is that we use the best available evidence to inform that, and then look at how the different woodland types best play out in the landscape. So, if you are using fast-growing conifers to maximise carbon sequestration, you really want to do that on the better land where you are getting the maximum benefit from them whereas, in the more semi-natural areas of the uplands, there is more opportunity to deliver biodiversity using native woodland at scale and with much-closer-to-nature methods.

Nick Halfhide: I am not sure that I can answer the question, because both are evolving so quickly and I do not think one is necessarily better than the other. What I have observed over my career is just how quickly the change is now happening in all environments and in all the different habitats, on land and on sea. I think I will leave it there.

Q112 Lord Krebs: I would like to come back to Alan on something he just said, which was that, in planting fast-growing conifers, you get greater carbon sequestration which is probably traded off against biodiversity of slower-growing broadleaved species. The RSPB, in its written evidence, said the following: "woodlands research emphasises the significantly greater carbon sequestration from long-lived broadleaf species over short-lived conifer plantations e.g. sitka spruce". To me, because I understand the sigmoid growth curve of trees and any other organism, what the RSPB says seems to run contrary to scientific evidence and contrary to what you said, Alan. Could you help me to resolve that please?

Alan Hampson: I think there is a timescale issue here because what I was talking about was the initial sequestration of carbon, particularly

within the net-zero timeframe. In that short time, the faster-growing conifer will be accumulating carbon quicker by virtue of it growing more quickly. In the longer term, those conifer trees would be harvested and then replanted. So there is an element of the forest resource going through almost a sawtooth shape on a graph of carbon over time, whereas in the longer term with the native woodland you will get a higher accumulation of carbon within the wood itself. I think this is about the framing, both in the examples that we choose, because it depends very much on the site with some of these research projects, and in the timescale that you are talking about.

Q113 **Lord Krebs:** That is helpful. To follow up, if you imagine planting Sitka spruce—the lifespan is 30 years—and then harvesting and replanting it, you are then in the rapid-growing phase of the oak tree. Let us say you did that over 100 years, compared to one oak plantation that is just growing to maturity over 100 years. Surely the area under the curve for the Sitka spruce would be greater than the area under the curve for the oak trees, if you consider the under-the-curve area as the total carbon sequestered.

Alan Hampson: If we take the carbon benefits associated with the wood products into consideration, then that is the case. So not all the timber that is harvested goes into long-term storage. A proportion of it will, obviously, be used as fuel and quickly go back into the carbon cycle. But between a third and a half of the timber harvested is going into long-term storage, so that is absolutely right. You need to look at the bigger picture of what is happening to the wood as well as just what is happening within the forest.

Q114 **Viscount Hanworth:** I think my designated question has largely been answered, but I will ask it again and then move on to a supplementary. The question would have been: what are the major uncertainties regarding the potential for carbon sequestration and storage within the various Scottish habitats and do we know how effective the various measures might be within these habitats? Does Alan Hampson want to add anything or is there anything else to be said before I ask a supplementary?

Nick Halfhide: Alan has answered very comprehensively for our woodland environments. I just wanted to add for some of our other habitats, because I think, on balance, our woodland habitats are maybe best understood in their carbon sequestration potential, but we perhaps have further work to do in other areas. Our peatlands are reasonably well understood but one of the challenges with our peatland environments, which are over a million hectares of Scotland, so they are on a much larger scale than any other habitat, is that they are very site specific. What you know is happening in one area may not be how it behaves in another area. That is a particular focus for our research at the moment: to try to understand the peatlands more site specifically, and this is equally true of all our soils.

Perhaps the area we know least about is our marine sediments. Our marine sediments are at a colossal scale within Scotland. I have not got exact figures on me, but the volume of carbon stored within our marine sediments is greater than our terrestrial habitats, so understanding how they are working, the dynamics within them and how our management of them will affect that emission or that sequestration are areas at the forefront. Given that our soils, our peatlands and our marine sediments are where our biggest stores of carbon are, these are where we and research providers are focusing our attention, because these are the ones we need to understand best and are of the greatest quantum.

Q115 **Viscount Hanworth:** Thank you; you virtually pre-empted my second question, but here is another one. I understand that Scottish moorland is not a primordial habitat and that the moorlands have been created by the grazing of sheep and deer, so could these animals be removed from the environment and, if so, to what effect? This is about the moorlands.

Nick Halfhide: I am happy to come in on that. You are absolutely right: our moorlands, which are largely a mixture of heather moorlands and a significant amount of peat, are heavily grazed and have, historically, been heavily grazed. If you were to remove all of that grazing, you would get a succession, in many instances, to a form of woodland, and that would depend on altitude. At the highest hilltops you would not particularly get any trees growing at all but, as you come down the hill, they would be more stunted in the drier areas and you would get larger-scale woodland as you went down the hill.

Where herbivores, which is mainly wild deer and sheep, have been removed in some quite extensive areas since the war, you have seen that succession come into place. What we have found—I think in the last 20 years—is that the number of sheep, by and large, on the hills has actually reduced. The number of wild deer overall has stabilised, but there is a considerable amount of work at the moment to see how the numbers of deer, particularly, might be reduced further where, in local circumstances, they were causing either the erosion of peatland or stopping this movement to a more wooded environment where there were clear carbon and wildlife benefits of moving from one type of habitat to another.

Q116 **Viscount Hanworth:** Is there a strong advocacy for this kind of rewilding, or is there, conversely, a resistance to such policies?

Nick Halfhide: There are fairly mixed views, depending on which lens you use to look at it. If you look at it through a carbon sequestration lens, there are clear benefits in having more wooded environments and in restoring your peatlands. I think there is a general movement in that direction, but clearly there are a lot of communities and businesses that rely on either upland farming or stalking and the high-value tourism that goes along with it. We, and many other parts of the Scottish Government, are focused on just transition. How can we help those businesses and communities move from one way of being to another, so that there are still jobs in some of these more remote glens, while that

land use change is evolving over time? Also, who is going to pay for that deer removal, because the receipts from the venison do not nearly match the costs of that deer management?

Alan Hampson: Part of the equation for us is about what happens with the carbon that is stored in the timber. As I was saying earlier, it is important that we take that into consideration in balancing these benefits. Scotland, in 2020, produced 7.8 million cubic metres of timber, which is a massive contribution to the UK's import of timber. The more timber that we produce domestically, the less pressure we are putting on forests elsewhere in the world and, very often, they are natural forests. There is a biodiversity trade-off between what we are doing with rewilding and nature restoration, at our own hand in this country, and the impact that we potentially export to countries elsewhere.

Viscount Hanworth: So we should look wider. Thank you very much; that has been very enlightening.

Q117 **Baroness Walmsley:** I would like to ask you both about the overall targets for nature restoration and climate change set by the UK and Scottish Governments. Do you feel that the UK is on track and, if not, what more do these schemes need to do to scale up investment to the levels required? Do you feel that voluntary approaches like the woodland and peatland codes will suffice, and could they be better supported? Perhaps I could go to Mr Hampson first.

Alan Hampson: I am not in a position to comment on delivery of the UK targets, but I can update you on where we are with our targets in Scotland. We are on track to increase the annual rate of woodland creation to 18,000 hectares per year by 2024-25. We were slightly down last year, just under our milestone, largely due to the disruption of Covid, but we are back on track with the applications in hand to deliver this year. I am sorry; what was the second part of the question around?

Baroness Walmsley: It was about scaling up investment. Is there anything that you think needs to be done there? I was also asking about the voluntary approaches like the woodland and peatland codes.

Alan Hampson: The codes are a key element for woodland creation and supporting woodland creation. The forestry sector has a very strong and long-established partnership of working with the private sector. The incentives that are offered through the government grants have been there for a long time and the sector is used to working with them. We are keen to see how we can bring a market value to many of the benefits from forests that have not traditionally been tradable in a market, and carbon is, obviously, a very big one of those. The woodland carbon code has been instrumental in developing markets, not just for carbon, but it is a good example of how you could develop markets for other natural capital benefits as well.

The big challenge around the woodland carbon code is additionality, so although there are strong timber benefits, there are not additional carbon benefits. Where the woodland carbon code really helps is in bringing an

additional income stream to those less commercial, more biodiversity-focused native-woodland types of woodland-creation projects.

Q118 **Baroness Walmsley:** Over the past couple of years, what proportion of that money has come from the carbon codes, where you have been quite successful in planting many more hectares of trees?

Alan Hampson: I do not have a figure off the top of my head but, in broad terms, over the last few years, around 40% of all woodland creation has been with native species. I would expect that carbon credits will have applied to a high proportion of that. The income accrues over time, so it is not immediate. If you would like, I could come back with more information on that.

Nick Halfhide: I will, again, restrict my comments to the Scottish level, if I may. Following the parliamentary elections at Holyrood in May, the new Scottish Government published some very ambitious new nature restoration targets. These are within both the programme for government that was recently published and the Scottish Government and Scottish Greens co-operation agreement. These include some really ambitious targets protecting 30% of Scotland's land and sea for nature by 2030 and highly protecting 10% of that, an extra £0.5 billion for nature economy, new nature networks, a commitment to no further extinctions within Scotland and a halt of biodiversity loss by 2030, nature restoration by 2045, a new national park and a new environment Bill to give all of this appropriate legal force. So there is no shortage of ambition and, indeed, monies that have been allocated for this.

On the biodiversity side, we are now producing a new Scottish biodiversity strategy that will meet the obligations we are expecting to come out of the new COP 15 convention being signed in Kunming next April. At the same time, we have lots of climate change targets around peatland restoration. Alan has spoken already about some of the targets around woodland planting and there is considerable overlap between the two, because we know that when you restore nature, by and large, it helps to reduce emissions and to make the country more resilient to climate change. I think we have the right ambition, and we are beginning to see the resources coming through.

Clearly, we need to do more and, as I said in my introduction, one of the roles that we and others are playing is trying to increase the amount of private sector investment so that it is not wholly reliant on the public sector, because this is more than any government can afford to do. We are making some progress on, for example, peatland—there is a peatland code. I would say we have an awfully long way to go though, and some of the challenges around this are trying to have a market benefit and to be clear what that is, so that the private sector is willing to invest.

Another key part of this is about mainstreaming to ensure that a proportion of our investment elsewhere, for example in the health service, can be invested in nature, because we know that the benefits of exercising in nature, both for physical and mental health, will reduce some long-term conditions. It particularly improves people's mental

health. How can we use that much broader investment across society to help gain some of those nature-based-solution benefits?

Q119 **Baroness Walmsley:** That sounds like an interesting idea, but you might find some resistance from the Scottish health service. You have just given us a long list of schemes and programmes to achieve some of these objectives, but how on earth does an ordinary farmer or land manager find their way around that in Scotland? What services do they have to help them through it?

Nick Halfhide: I recognise that this is very complicated and I absolutely appreciate that. I think the key to moving forward is further investment in a local advisory service and the form of that is still emerging. There have been various iterations over the decades. From our perspective, I think it is really important to help any individual land manager have access to a single point of data about all the things that we understand are going on on their farm or landholding, and to bring together their knowledge and the knowledge that we and other bodies have to help them see a way through it. Ultimately, they will get to a single land management contract idea where it will be clear what it is the state is requesting from that piece of land and how we are going to support it, through incentive, in some cases regulation, but also in terms of advice.

What is absolutely clear, and we mentioned it earlier, is that we are demanding a huge amount from our land and from those who manage the land. In many instances, the skill set required for a land manager is more than any individual can ever have, because the state requires that piece of land, and indeed bits of the sea, to deliver so many multiple benefits. I think what we will see in the future is a huge investment in that advice and support, working alongside farmers and other land managers and those who manage the sea, given the crucial role they have in dealing with the twin crises.

Baroness Walmsley: If there are any good examples of that, perhaps you could forward them to the committee.

Q120 **Baroness Manningham-Buller:** I would like to ask our witnesses to help the committee understand some of the financing of these schemes. Nick, earlier on in his answers to Lord Holmes, talked about the co-benefits, and this is something we have heard from other witnesses. How do we value those co-benefits and make sure that it is not just carbon that is part of the payment schemes, but these wider cross-benefits which we recognise exist? Could we go to Nick to begin with, as we had started this conversation in his answer to previous questions.

Nick Halfhide: You are absolutely right. The first step in all this is to identify the co-benefits and then have a way to value them, so that we can see who benefits and at what scale. The tool that we have been using and piloting is natural capital accounts. This is something we have piloted on our own land. I should have mentioned at the start that we own about 30,000 hectares of nature reserves, and we are valuing not only the carbon on there, which we have talked about, but the benefits, for

example, to health or to the local economy. There are other examples, elsewhere in the world, where people have used this to value the water purification value of land or the coastal defences. We have done another piece of work looking at the billions, in terms of assets, that our natural coastal defences protect and what threats they are under. It is doing that kind of analysis for different habitats to look at all the benefits and to try and give a sense of who benefits and what the value is of those benefits.

Q121 Baroness Manningham-Buller: How far are we from that stage with natural capital, in pulling all those benefits together, certainly in Scotland?

Nick Halfhide: I think it is very variable. For example, we have done a very comprehensive piece of work that looks at all our coastal environment, and we now know the value of assets that are protected by hard infrastructure and by soft natural infrastructure. We are beginning to pinpoint specific examples of where we and other interested parties, private and public, need to invest to protect those assets or to move them, if that is not doable. I think it is much harder to do that work where you have multiple benefits across multiple different land holdings, but we have started to do it. I am sorry that this is an incomplete answer, but it is very variable. In some instances, it is done; in others it is much further away. We have done it at a national level. We do national capital accounting at a national level, but that is helpful only up to a point. We need to take it down to a more regional and then local level.

Baroness Manningham-Buller: That is a very helpful answer. Does Alan wish to add to anything to this question?

Alan Hampson: Our grants are buying multifunctional woodlands. There are co-benefits associated with all types of woodland, and natural capital is the way in which a lot of these co-benefits are currently being framed, but they have been around for a long time. We have talked about the balance between the social, economic and environmental benefits of woodland for a long time. As I was saying earlier, around 40% of woodland created in Scotland is of native species, where there is greater emphasis on the delivery of environmental and, to some extent, social benefits. But even in the most commercial schemes we have a balance between the economic benefits and the delivery of those wider co-benefits, because all woodland has to meet the requirements of the UK forestry standard, and that standard really ensures delivery of the co-benefits, even from those most commercially orientated schemes. The UK forestry standard has requirements in relation to biodiversity, water, access, landscape, archaeology, et cetera, so we are ensuring that they are delivered.

The process that has gone through the woodland application is very thorough. Somebody who wants to create woodland will generally contact an agent, either to look for a piece of land for them or to advise them on what the potential is from their own land, and they will go through a process of establishing just what it is that the owner wants to achieve and then, through engagement with our concerns—our staff on the

ground—they will be able to work out what support there is. As we were saying earlier, traditionally there has not been a market for a lot of these co-benefits, but that is where the woodland carbon code has been very helpful. Therefore, with the carbon side of things at least, there is now a market that those carbon benefits can be traded in.

So yes, I think there is value in those co-benefits. There is no doubt about it: we, as a society, value those co-benefits. The challenge is that we have not yet found very effective ways of creating a market for many of them. There is, obviously, a debate as well about the extent to which we actually want to create a market for all those benefits.

Baroness Manningham-Buller: I suppose that goes back to how we value them, because we cannot create a market, should we wish to do so, without being able, on the current schemes, to put some value on them.

Alan Hampson: Yes, I think “value” is a broad term really. When we engage with venture capitalists to try to work out ways of encouraging more private sector investment, the message we often get from them is: “You show us where there’s value and who it accrues to, and we will work out a way of making money out of it”. I think it gives clarity on just how specific and exclusive some of that value is and what willingness there is to pay on the part of the beneficiary.

Baroness Manningham-Buller: Do you have anything else to add, Nick? Obviously, this cannot all be paid for by the Government, so attracting private sector money into it is also going to be important.

Nick Halfhide: Alan has covered the venture capital side of this, so I think the only thing I would add is at the other extreme. To give an example, we have been working with some of the more deprived communities in Scotland to look at how to improve their local community. One case, Fernbrae Meadows, was a disused golf course owned by the local authority and we used European money to do the hard physical infrastructure to turn it into a park, where people can have access to grow food, to take exercise and to improve their mental health, and it also helps alleviate flooding. So we have used public money to do the hard work on the ground.

In developing that, we worked very closely with the community so that, although they do not have legal tenure of the land, they have ownership of how that area is now going to be managed and set up volunteering groups to then take the “heart and soul” ownership of it, so that it begins to deliver the benefits that their local community needs. I think the point of the story is not just about hard cash, although that is really important, but about commitment, ownership and volunteering, and a whole range of non-monetarised approaches to how these benefits are realised for the people who actually live near them, not just for the global markets.

The Chair: I do not think I have any supplementary questions, so thank you very much. We are very appreciative to both of you for your time today. Of course, I am hoping, Mr Halfhide, that your attempt to reduce

the deer population will affect me too as they get into my garden in Dunkeld. Thank you very much for today; it has been most informative. If you have any more comments to make or any other piece of evidence that you would like us to see, please feel free to send it. You will get a transcript of today's deliberations and, if you think there is something wrong in it and that it needs correction, please feel free to do so. For today, thank you very much indeed for helping us, and goodbye.